

Field Naturalists' Club

of Ballarat Inc

December 2000

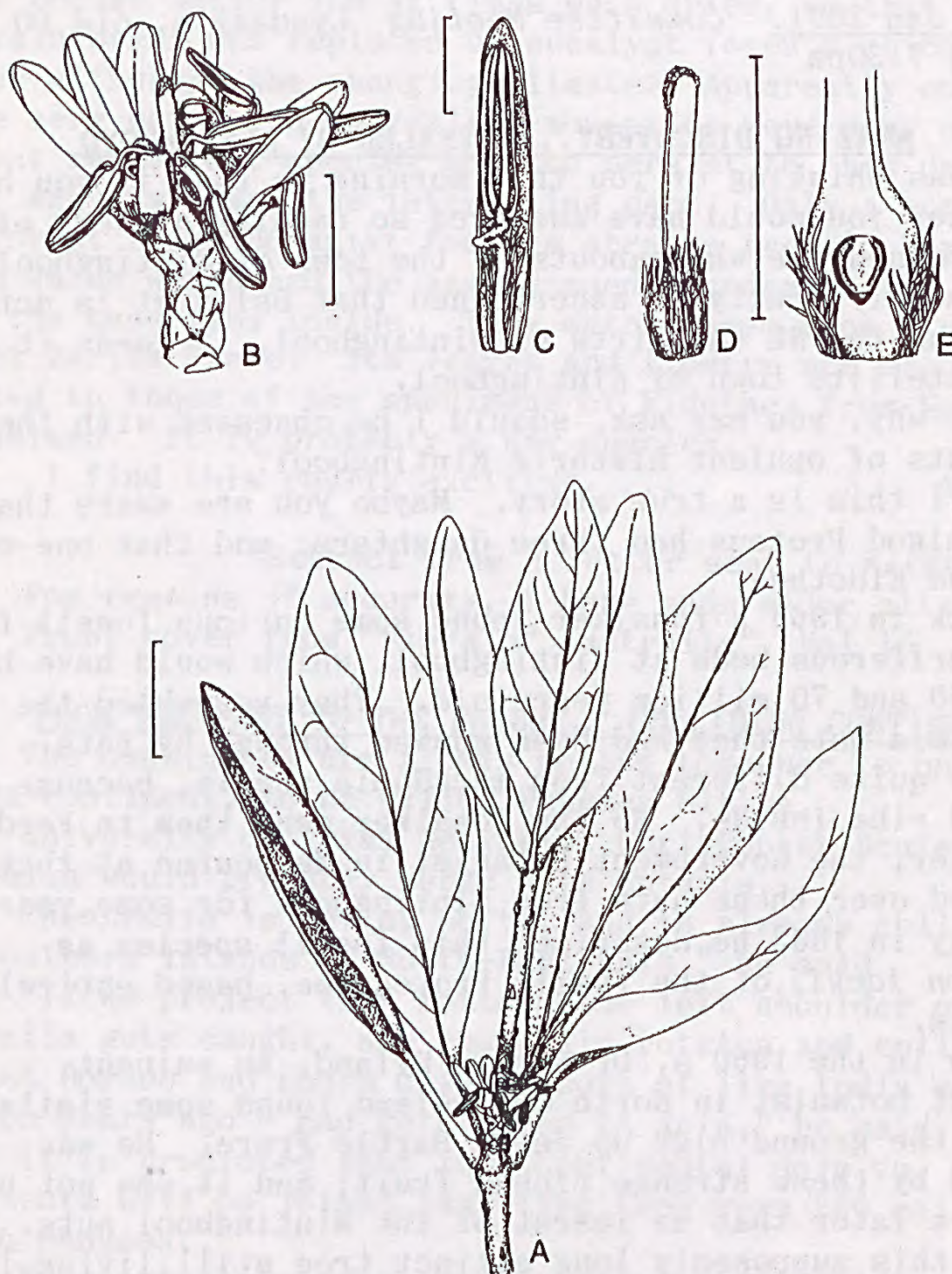


Figure 46. *Eidothea zoexylocarya*. A, flowering branchlet; B, inflorescence; C, tepal and stamen; D, gynoecium; E, partially dissected ovary showing single pendulous ovule, some hairs removed (A-E, A.Douglas, 377-PROT, MEL). Scale bars: A = 2 cm; B = 5 mm; C, E = 2 mm; D = 4 mm. Drawn by A.Douglas.

DIARY DATES

Fri 1st Dec. Meeting. *Raptors.* Speaker Richard Naisbitt, keeper of raptors at Healesville Sanctuary.

Sun 3rd Dec. Excursion. *BOCA Block, Linton.* FNCB members.

Note half day excursion, meet Creswick Plaza at 1-30.

Sat 9th Dec. *Christmas BarBQ.* 12 Noon, Carol Hall's, 5 Elizabeth St, Wendouree. BYO meat, drinks and a salad or sweet to share. Shade umbrella also desirable.

Wed 24th Jan 2001. *Committee Meeting* Lyndsay's, old PO Meredith, 7.30pm

AMAZING DISCOVERY...REVEALED BY ALEX FLOYD

.....I was thinking of you this morning in that if you had been closer you could have answered so readily a query of mine. This concerned the whereabouts of the town of Nintingbool. After some difficulty, I ascertained that Ballarat is actually situated on the NE outskirts of Nintingbool. I guess it is like a satellite town of Nintingbool.

But why, you may ask, should I be obsessed with the whereabouts of opulent historic Nintingbool?

Well this is a true story. Maybe you are aware that the Greek demigod Proteus had three daughters; and that one of them was called Eidothea.

Back in 1865 a fossiker found some curious fossil fruits in the auriferous beds at Nintingbool, which would have been between 30 and 70 million years old. They resembled the shells of Macadamia nuts that had been gnawed through by rats. But they were quite different from macadamia shells, because there were hard ribs inside. So the fossiker sent them to Ferdinand Von Mueller, the Government Botanist in Melbourne at that time. He puzzled over these nuts from Nintingbool for some years; but eventually in 1883 he described this fossil species as *Xylocaryon lockii* of the family Proteaceae, based entirely on these nuts.

Now in the 1960's, Dr Bernie Hyland, an eminent rainforest botanist in North Queensland found some similar fruit on the ground high up on Mt Bartle Frere. He was intrigued by these strange ribbed fruit; and it was not until some years later that he learnt of the Nintingbool nuts. So here was this supposedly long extinct tree still living in one remote spot in North Queensland. Dr Hyland eventually in 1980 was able to collect, leaves, flowers and fruit of this tree. In 1995 he named it *Eidothea zoexylocarya* (*Eidothea*, after Proteus's daughter and 'zoe' = life, plus 'xylocarya'. In other words, the living xylocarya). Just as the Nintingbool nuts had been gnawed through by some predator, so also had the

p1

nuts collected by Dr Hyland over 30 million years later! In the latter case, the culprit was assumed to be the giant white-tailed rat.

So here was evidence that the flora in North Queensland today once extended right down the east coast of Australia to Victoria over 30 million Years ago. At that time, Australia was moving northwards away from Antarctica as the Gondwana supercontinent broke up. This meant that Australia's east coast became hotter and at times much drier, so that much of the rainforest was replaced by eucalypt forests which could better withstand the changing climate. Apparently only on these very wet North Queensland mountains were many of these ancient rainforest species able to persist to this day.

And now comes the interesting part. Only a month ago, a rainforest field botanist found a strange tree in Northern New South Wales which had the same gnawed Macadamia-like fruit but with the same ribs inside. They match those from Nintingbool and Mt Bartle Frere. Its leaves and flowers are also closely related to those of the specimens of Eidothea from Northern Queensland. It is probably a new species.

I find this really exciting. ...

Alex Floyd

Extract from a letter sent to Margaret Martin
For reasons of security, I have made minor alterations.
Front cover from "Flora of Australia", Vol 16 Ed

FROM THE PAST TO THE FUTURE...COLLIDING CONTINENTS

The continents are slowly moving together to one day form a mega-continent, to be called Pangaea Ultima.

University of Texas geologist Christopher Scotese said Australia would probably merge with Eurasia.

"Australia is moving north, and is already colliding with the southern islands of South-East Asia," he said

"If we project that motion, the left shoulder of Australia gets caught, and Australia rotates and collides against Borneo and south China - sort of like India collided 50 million years ago - and gets added to Asia," he said.

It is predicted that in a continental déjà vu, all the continents will be joined just like they were 250 million years ago in Pangaea.

NASA satellites were used to track tiny shifts of the continents. They move as fast as fingernails grow.

Other predictions are that:-

The once almighty Atlantic will become an inland sea.

And Africa would probably continue its northern migration, closing over the Mediterranean and driving up a

Himalayan sized mountain range in southern Europe.

Summary of an article in the Herald Sun, 18.10.00

We will be try to have the map in the future! Ed

Article submitted by Helen Burgess

CANADIAN NATIONAL PARKS.

Dr David Welch was this years speaker for the Stella Bedggood Memorial Lecture. He is a scientific adviser for Parks Canada, and is currently at Ballarat University on a three month exchange program. He gave an excellent talk about Canadian National Parks, the emphasis being on systems, stresses and solutions.

The first point was the fact that a large percentage of Canada is covered in permafrost, also because of low rainfall much of Canada is actually desert. Most of Canada has few roads, travel being largely by plane or boat. A lot of the Parks in the south are small and close to urban areas and subsequently have many problems. Generally speaking the parks in the central and northern regions are bigger, mostly newer and not presenting so many problems.

Six basic habitat types were shown and described :- (i) Tundra. (ii) Montane, mostly rocky mountain. (iii) Rainforest - on the Pacific rim. (iv) Wetlands. (v) Grasslands and (vi) Boreal forest / grassland / lakes.

In 1930 the stated mission of the National Parks Service was to protect the parks for the benefit of people. Since then it has been realised that protection of the environment and the natural organisms in it, is more important. This year the National Park Act stated that the first priority in all actions is the maintenance of ecological integrity. As a result of this change in priority there has been a considerable demarketing of the parks. Many economic activities have been removed. Generally speaking most human activity is restricted to low impact activities such as hiking and camping.

We then went on to some of the problems. St Lawrence Island NP was given as an example of a park which was small, fragmented and close to human population - subsequently having similar problems to many of our parks which are near population centres. Parks in the south east suffer badly from pollution, being what is virtually the tailpipe of USA industry. Point Pele'e NP was cited as an example, studies between 1910 and 1994 have shown a marked decline in wildlife, in particular many species of reptiles have disappeared. The main pollutant is wet sulphate, produced by burning fossil fuels containing sulphur, sulphur dioxide is formed which in turn reacts with water and oxygen to ultimately form sulphuric acid -acid rain.

p3

Extra regulations have been introduced to limit the problem but it is still causing a lot of damage. Roads are also considered bad, apart from road mortalities increased access leads to increased interference, so many roads are being closed. Solutions to these and other problems are being sought. Park management can improve, policy and legislation can be improved but most importantly public understanding and involvement is a crucial factor. There are also many problems which are global. Airborne mercury is emerging as a major pollutant. Increased ultra violet radiation is causing great concern. Probably though climatic warming due to the greenhouse effect is the major concern. Estimates indicate that by the year 2090 the mean temperature will have increased by between 4 and 16 degrees Celsius. The earliest measurement of the thickness of the Arctic ice cap was 3 m, it is now 1 m.

We were then treated to a series of slides, beaver, musk ox, summer tundra - gullies containing partially shaded snow which melted gradually throughout the summer maintaining a steady flow of water. A herd of caribou high up on rocky ground - no food but no mosquitoes either! The spectacular mountain on Baffin Island with a sheer drop of 1.5 km, the scene for a James Bond film, where facing doom he leaps off the edge and opens a parachute to glide to safety below. We were shown polar bears, ice reduction would limit their ability to catch seals, their main food. Bison in Wood Buffalo NP. The classic postcard scene of blue sky, blue lake and Mt Banff behind in Jasper NP. Snow clearing on roads is a major expense for the parks service, in some places tunnels have been built to avoid the problem and a howitzer was shown being used to trigger avalanches so that they would not happen unexpectedly. There were totem poles and the coast of Fundy NP with its 16 m tidal range. The final slide was of a spectacular iceberg in Terra Nova NP - iceberg viewing becoming a healthy tourist industry.

We were all grateful for the wonderful talk from such an expert speaker.

Brian Andrews

THREE NATIVE PLANT GARDENS

Sun 5th November. Leader Elspeth Swan.

Twenty four members set out, all prepared for a pleasant day in beautiful and interesting gardens, to the south east of Ballarat.

All through the day we feasted on a bedazzling array of callistemons, dryandras, eromophilas, hakeas, banksias, melaleucas, acacias, tetraethecas, hibbertias, daisies, waratahs, sheoaks, correas, poa grass, boronias and various

eucalypt species - firstly at the cosy home of Tony and Erica Natham at Yendon, secondly at Paul Norquay and Elspeth Swan's abode at Mt Egerton and then at John and Joy Clark's "Lover's Leap Nursery" at Ballark, adjacent to a bridge over the East Moorabool River.

Erica advised us that in her garden some of the natives had been grown from seed collected in the bush, some were obtained from a nursery and some given to her by friends. Tony does the landscaping work and what we saw is the culmination of twelve years effort.

The ubiquitous pallid cuckoo betrayed its presence with its call of ascending notes. Also heard at Tony and Erica's were grey thrush, kookaburra, grey fantail, crimson rosellas and restless flycatcher (scissors grinder). Red wattle birds were seen bathing and froglet species were heard croaking in the dam - two distinct calls being differentiated by Greg Binns. Erica said koalas are frequent visitors atop the Manna Gums in the garden and later Elspeth reported the same observation at her home some twelve kilometres away. An attractive looking shrub was a daisy nicknamed the Kerosine bush.

At Paul and Elspeth's we saw goldfinches in the vineyard, Paul said this species nests in the foliage undaunted by the agricultural spaying program. In my experience this is also true of English blackbirds nesting in citrus trees and vineyards in my hometown. New Holland honeyeaters were plentiful, also blue wrens. Claire Dalman discovered a nest of the latter species barely thirty centimetres off the ground. Elspeth said eastern spinebills and white-eared honeyeaters visit her garden. Paul and Elspeth were delighted to observe a pair of yellow robins hatch and fledge two babies in a neat nest situated in a melaleuca barely one metre off the ground, just outside their kitchen window. The rubbed leaves of a boronia specimen in this garden - a *mollis* x *fraserii* hybrid has a distinctive aroma, Margaret Martin had prior knowledge of this characteristic. Blackwoods, nodding greenhoods and lemon scented greenhoods were also growing here.

Paul and Elspeth said echidnas, possums and blue tongue lizards are visitors - a ring-tailed possum takes refuge under the verandah on a beam and white-throated treecreepers run up and down the verandah posts. There being intermittent rain throughout the day, it was lovely to see the waters of the Bungal Dam glistening in the distance while the sun was out for a while, when we stopped for lunch.

John Gregurke was fascinated by a strange looking device laying in the grass at Yulong Lavender Farm adjacent to Paul

and Elspeth's. I was pleased to inform John that it was a RONALDSON - TIPPETT spray pump, used by my people in horticultural pursuits at Red Cliffs since the early days and which sets the standard for the rating of other pumps.

In the Lover's Leap Nursery, Helen Burgess found a clump of bracket fungi which Brian Andrews identified as turkey tail *Trametes versicolor*.

And on the way home Geoff Alexander spotted a cageful of turkeys in someone's backyard, no doubt intended for Christmas dinners.

Tony Johns

TREE PLANTING AT NERRINA WETLAND

We had been invited to go tree planting with LINCS (Linear Incorporated Network of Communal Spaces). They are involved with planting along streams, road reserves and rail reserves - creating valuable corridors for wildlife, preserving remnant vegetation, revegetating degraded areas with indigenous vegetation and providing tracks for public use.

My tardiness was a bit worse than usual as I drove into Creswick Plaza car park at 9-40, I was expecting everyone else to have left, but they were kindly and patiently waiting for me. We then straight away headed for Nerrina and at the end of Rice St we found an area on the bank of the Yarrowee Creek, waiting for us to plant trees in. We were greeted by John and Rohan who have a contract with Ballarat City Council for tree planting, finance being provided by the Corangamite Catchment Authority.

Our first site was a grassed area that had obviously been mowed by the adjacent home owner. Black woven plastic mulch mat had been put down and we set about in assembly line fashion to plant the 300 trees that were there for planting. Greg cut holes in the mulch mat, John punched in planting holes with a Hamilton planter, then Helen, Carol and I followed planting trees, with their tasks quickly completed Greg and John joined in the planting, Bill, Pat and Gayle also arrived to help with the work. John Kerr and Rowan put in wooden stakes and plastic tree guards around the perimeter trees and bamboo support stakes for the rest. The tree guards around the perimeter provide a clearly visual boundary. Trees were planted about 1m apart, about 4 times the planting density that most of us had expected, but this was done to allow for some plants dying and potential vandalism.

Being well into November I thought that it was too late to be planting trees, but the chosen site was under water the previous week and if they could survive anywhere, they would

survive there. In fact some of the planting holes had water in the bottom, and the species had been carefully selected to suit the site :- woolly teatree, prickly moses, swamp gum, silver wattle, wirilda and common cassinia. The heat may effect the plants, it certainly affected us and we were glad to see the 300th plant pop into its hole so that we could retreat to the shade for morning tea.

Fully refreshed we set about planting a sandy bank with 1000 poa grass seedlings from mini-tubes and about 50 river bottlebrush plants. We were finished by lunchtime and most people headed for home. It had clouded over and was quite cool, Rohan suggested that maybe we should have done the planting in the afternoon, but when I heard the rumble of thunder I said,... "maybe not!"

Brian Andrews

OCTOBER POSER...ANIMAL OLYMPICS

An ant can lift a stone 50 times its own weight, equivalent to me lifting up an elephant! A flea can jump 30 cm, 200 times its body length, equivalent to us jumping 300 m! A hawkmoth can fly at 40 km/hr, so can a dragonfly! The peregrine falcon was clocked diving at 320 km/hr.

The peregrine report was on WIN news. The other facts were in the LIFE Nature Library book 'The Insects', I converted to metric.

BDA

DECEMBER POSER...RONG SPELLING

Scientific names are used to avoid confusion, they are carefully worked out and checked. Why then do they often contain color, the Americanised version of colour, which for serious spellers is considered to be not right? Some examples are :-

Diuris tricolor = variable diuris

Lathamus discolor = swift parrot

Nicodamus bicolor = red and black spider

and *Trametes versicolor* = rainbow fungus

And if that was too easy, what carpet snake isn't a reptile?

BDA

-----***----- FNCB -----***-----

Meetings are held at the Ballarat Horticulture Centre, corner of Gregory and Gillies Streets, ie. the NW corner of the Botanic Gardens, VICROADS 254 F8, commencing at 7-30pm

Excursions depart from Creswick Plaza, VICROADS 255 M10, at 9-30 am, unless specified otherwise.

Committee: Claire Dalnan (President).. , Greg Binns (Vice President).. , John Gregurke (Secretary).. , Bob Curtain (Treasurer).. , Brian Andrews (Editor).. , Helen

Burgess, Maureen Christie, Lyndsay Fink, Carol Hall, John Mildren, Pat Murphy.

Postal Address: PO Box 328W, Ballarat West, 3350

Inc Reg No A0014919P